[hybridisation] hybridization reactions.

Claim 8, line 1, change "analysing" to --analyzing--;

line 3, before "the" insert --oligonucleotides comprising--.

9.(Amended) [A] The method according to claim 8, applied to the study of differences between polynucleotide sequences, wherein the array [is of] of oligonucleotides comprises the whole or a chosen part of the complete set of oligonucleotides of chosen lengths [comprising] corresponding to the polynucleotide sequences.

Claims 10-15, line 1, change "A" to --The--.

Claim 16, line 1, change "A" to --The--;

line 2, change "hybridisation" to --hybridization--.

Add the following claims:

17. Apparatus for determining the sequence of a polynucleotide comprising a support having attached to a surface thereof an array of different oligonucleotides with defined sequences, the oligonucleotides occupying cells of the array and being attached by covalent linkages to the surface, wherein the defined sequence of an oligonucleotide of one cell of the array is different than the defined sequence of an oligonucleotide of another cell of the array.

18. Apparatus for analyzing a polynucleotide, the apparatus comprising a support segregated into at least two defined cells, each cell having covalently attached thereto oligonucleotides with known sequence, where the sequence of the oligonucleotides of a first cell is different than the sequence of the oligonucleotides of a second cell.

19. A method for generating an array of oligonucleotides of chosen lengths within discrete cells of a support material comprising the steps of

a) segregating a support material into discrete cell locations;

b) coupling a nucleotide to a first set of cell locations;

c) coupling a nucleotide to a second set of cell locations;

d) coupling a ~~nucleotidfe~~ nucleotide to a third set of cell locations;

e) and continuing the sequence of coupling steps until the desired array has been generated,

the coupling being effected at each location either to the surface of the support or to a nucleotide coupled in a previous step at that location.

20. The method of claim 19, wherein a microcomputer controlled plotter delivers the nucleotides to said sets of cell locations.

21. The method of claim 19, wherein the size of each discrete cell is between 10 and 100 microns.

22. The method of claim 19 further comprising the use of means for coupling said nucleotides to a particular set of discrete cell locations to the exclusion of other discrete cell locations.

23. The method of claim 22, wherein the said means is a mask.